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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,334	06/28/2007	Yasuyuki Goto	P09042US00/RFH	7073
32885 7590 04/01/2010 STITES & HARBISON PLLC 401 COMMERCE STREET SUITE 800 NASHVILLE, TN 37219				
EXAMINER				
BOHATY, ANDREW K				
ART UNIT		PAPER NUMBER		
1786				
NOTIFICATION DATE		DELIVERY MODE		
04/01/2010		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/599,334

Applicant(s)

GOTO ET AL.

Examiner

Andrew K. Bohaty

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-19 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/22)
Paper No(s)/Mail Date ____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.
2. This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.
3. In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-6, drawn to an organic electroluminescent element comprising an electron transporting layer composed of a phosphorus containing organic compound.

Group II, claim(s) 7-11, drawn to a method of making an organic electroluminescent element comprising an electron transporting layer composed of a phosphorus containing organic compound.

Group III, claim(s) 12-17, drawn to a phosphorus containing organic compound.

Group IV, claim(s) 18-19, drawn to a method of making a phosphorus containing organic compound.

4. The inventions listed as Groups I-IV do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:
5. Groups I-IV lack unity of invention because *a priori* the groups do not have a special technical feature that is common through all the claims.
6. Groups I and II lack unity of invention because even though the inventions of the these groups require the technical feature of a light emitting element comprising a hole transporting layer insoluble in alcohols and an electron transporting layer containing a phosphorus-containing organic compound that is soluble in alcohols is not a special

technical feature as it does not make a contribution over the prior art Tamano et al. (US 5,811,834) (hereafter "Tamano") in view Doi et al. (WO 03/046108), where Tanaka et al. (US 2005/0106413) (hereafter "Tanaka") is used as the English equivalent.

7. Tamano teaches a light emitting device composed only of a hole injection layer and a light emitting layer disposed between the anode and the cathode; therefore, the light emitting layer is acting as the electron transporting layer as well (column 23 lines 39-55). Tamano teaches the light emitting layer can be composed of an phosphorus containing organic compound (compounds (35) and (36) column 23 lines 29-38).

Tamano teaches that the light emitting layer can be made using a wet method and the solvent can be ethanol (column 25 lines 11-26). Tamano teaches that the hole injection layer can compose of electrically conductive polymers (column 49-67).

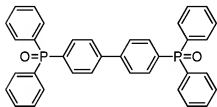
8. Tamano does not specifically teach an electrically conductive polymer that can be used in the hole injection layer that is insoluble in alcohols.

9. Tanaka teaches a light emitting device comprising an anode, a hole injection layer, a light emitting layer/electron transporting layer, and a cathode (paragraph [0178]). Tanaka teaches the hole injection layer is composed of PEDOT:PSS. Although Tanaka is silent on the solubility of PEDOT:PSS, PEDOT:PSS is a compound taught by the applicant that is not soluble in alcohols; therefore, PEDOT:PSS is inherently insoluble in alcohols.

10. It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute electrically conductive polymer of Tamano for PEDOT:PSS as taught by Tanaka. The substitution would have been one known

conductive polymer that can be used in the hole injection layer for another conductive polymer and would lead to the predictable results of using PEDOT:PSS as a hole injection material in a light emitting device. This substitution would lead to a device with an anode, a hole injection layer composed of PEDOT:PSS, which is insoluble in alcohols, a light emitting/electron transporting layer composed of a phosphorus containing compound, which is soluble in ethanol and can be deposited by a wet method, and a cathode; therefore, the groups I and II lack unity of invention.

11. Groups III and IV lack unity of invention because even though the inventions of these groups require the technical feature of a phosphine oxide organic compound is not a special technical feature as it does not make a contribution over the prior art Hnoosh et al. (Canadian Journal of Chemistry, 1969, 47 4679-4685) (hereafter "Hnoosh"). Hnoosh teaches a phosphine oxide with the following structure,



(page 4680 right column first paragraph at the top). This

compound is the same as applicant's compound (A) in claim 16; therefore, groups III and IV lack unity of invention.

12. Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

13. The election of an invention or species may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

14. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

15. The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and the product claims are subsequently found allowable, withdrawn process claims that depend from or otherwise require all the limitations of the allowable product claim will be considered for rejoinder. All claims directed to a nonelected process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

16. In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not

commensurate in scope with an allowable product claim will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.** Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew K. Bohaty whose telephone number is (571)270-1148. The examiner can normally be reached on Monday through Thursday 7:30 am to 5:00 pm EST and every other Friday from 7:30 am to 4 pm EST.
18. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, D. Lawrence Tarazano can be reached on (571)272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

19. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. K. B./
Andrew K. Bohaty
Patent Examiner, Art Unit 1794

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